UNITED STATES DISTRICT COURT

EASTERN DISTRICT OF WASHINGTON

HER MAJESTY THE QUEEN IN RIGHT OF CANADA AS REPRESENTED BY THE MINISTER OF AGRICULTURE AND AGRI-FOOD, a Canadian governmental authority, Plaintiff/Counter-Defendant, v. VAN WELL NURSERY, INC., a Washington Corporation; MONSON FRUIT COMPANY, INC., a Washington Corporation; GORDON GOODWIN, an individual; and SALLY GOODWIN, an individual, Defendants/Counter-Plaintiffs, v. A SUMMERLAND VARIETIES CORPORATION, Third Party Defendant/ Counter-Defendant.	No. 2:20-CV-00181-SAB **FINDINGS OF FACT**

A bench trial was held from April 22 to April 26, 2024, in Spokane,

Washington. Plaintiff was represented by Jennifer Bennett, Daniel Short, Michelle Fischer, Garrett Fox, Alyssa Orellana, Cary Sullivan and John O'Donnell. Defendant Van Well Nursery was represented by Kent Doll and Katie Merrill. The Goodwin Defendants were represented by Quentin Batjer. Defendant Monson Fruit was presented by Mark Walters.

Closing arguments were held on August 8, 2024, by videoconference. Closing arguments were made by Jennifer Bennett for the Plaintiff and Mark Walters for Defendants. After hearing argument, the Court issued its preliminary findings. This Order memorializes the Court's ruling.

Findings of Fact

1. Plaintiff Her Majesty the Queen in Right of Canada as Represented by the Minister of Agriculture and Agrifood ("AAFC") is a department of the government of Canada that supports the agricultural sector.

2. AAFC operates a plant breeding program based in Summerland, British Columbia, Canada, where it breeds sweet cherries, among other things.

3. AAFC's sweet cherry breeding program develops new cherry varieties with desirable traits such as improved fruit quality, increased fruit size and firmness, good storability, and a wide range of maturity timings to increase the length of the cherry season.

4. There are two sexual reproduction methods AAFC uses to develop new cherry varieties—cross-hybridization and open pollination.

5. After new candidate varieties are produced by cross-hybridization or open pollination, they are treated exactly the same, and the traits are then evaluated by the breeder.

6. Since 1994, AAFC has coordinated its outside testing of candidate varieties through Summerland Varieties Corporation ("SVC"), an intellectual property management company that represents fruit variety owners around the world.

7. SVC was known as the Okanagan Plant Improvement Corporation ("PICO") before it changed its name in 2014.

8. In 1994, AAFC entered into a general agreement with SVC under which SVC was, among other things, to "coordinate the testing and introduction of advanced selections domestically and abroad" and "to assess the market potential and promote new tree fruit varieties to Canadian growers and nurseries, and other interested parties internationally."

9. Once an AAFC cherry variety is authorized to be sold, nurseries, growers, and packers who wish to commercially sell the variety enter into Commercialization Agreements with SVC

10. The Staccato® sweet cherry was discovered by Dr. David Lane at AAFC's Summerland Research Center in 1982.

11. Staccato® was the result of open pollination between two Sweetheart trees and was selected by Dr. Lane.

12. Staccato® was initially referred to as "13S-20-09" because the Staccato® mother tree was planted in field 13S, row 20, tree position 9 at the Summerland Research Station.

13. Staccato® stood out to Dr. Lane because of its late maturity timing and large fruit size.

14. At the time it was discovered, Staccato® was the latest-maturing cherry variety.

15. Defendant Van Well Nursery ("Van Well") is a grower and seller of fruit trees based in Wenatchee, Washington.

16. Van Well has been managed by Peter James Van Well ("Pete 1") and/or Peter Joseph Van Well ("Pete 2") since 1982.

17. Pete 1 was the President and General Manager of Van Well from 1982 to 2014 and remains a member of Van Well's Board of Directors.

18. Pete 2 took over as Van Well's President and General Manager in 2014

and still holds that position.

19. In 1990, Van Well signed a testing agreement, called a "Restriction Agreement," with AAFC to grow and test Staccato®.

20. The Restriction Agreement provides that any Staccato® plant material provided to Van Well could not be propagated or distributed to any third party for any purpose.

21. Between 1990 and 1998, Van Well received Staccato® plant material pursuant to the Restriction Agreement.

22. In 1998, Van Well entered into a variety development sublicense agreement ("Commercialization Agreement") with SVC to commercially sell and distribute certain AAFC cherry varieties, including Sonata, a different cherry variety.

23. The 1998 Commercialization Agreement between SVC and Van Well did not authorize Van Well to sell or distribute Staccato®.

24. In 1998 or 1999, Van Well sold to Defendant Gordon Goodwin ("Mr. Goodwin") 200 Sonata trees pursuant to the Commercialization Agreement.

25. Van Well tenders its trees to customers in bundles.

26. When dug up and bundled, the trees are of an age where they have no leaves, branches, fruit, or other distinguishing characteristics.

27. At the age nursery trees are bundled, there is no way to visibly distinguish one variety from another.

28. Although Van Well has systems in place to prevent trees from one variety from slipping into a bundle of another variety, mistakes do happen.

29. Van Well's invoice, including its invoice covering the sale of the 200 Sonata trees to Mr. Goodwin, warrants that the plant material is true to name but advises customers about what they should do when they discover that they have received the wrong variety from Van Well; *i.e.*, that the plant material they received is not the variety described on the invoice.

30. Mr. Goodwin picked up what were supposed to be 200 Sonata cherry trees from Van Well on May 16, 2000.

31. Mr. Goodwin then planted the 200 cherry trees in his home orchard.

32. Sonata is a mid-season cherry that matures and harvests weeks earlier than Staccato®.

33. In 2003, Mr. Goodwin noticed that one tree was different from, and its cherries were ripening later than, the rest of the 200 Sonata trees he purchased from Van Well.

34. Mr. Goodwin believed the one tree that looked different was sick because its fruit was ripening so late.

35. In late July 2003, Mr. Goodwin called Van Well about the tree.

36. Pete 1 came out to Mr. Goodwin's orchard to look at the tree.

37. After examining the tree, Pete 1 wrote in his notes that the tree "looks like 20-9."

38. Pete 1's note was referring to AAFC's reference number for Staccato, 13S-20-09.

39. In September 2004, Pete 1 returned to Mr. Goodwin's orchard to look at the tree again.

40. During the 2004 visit to Mr. Goodwin's orchard, Pete 1 again wrote in his notes that the tree "may be" Staccato®.

41. As explained in greater detail below, the tree was a Staccato® tree.

42. The Staccato® tree in Goodwin's orchard came to be known as the "Glory" mother tree to which all of Defendants' "Glory" trees can be traced back.

43. Almost every year, Van Well takes budwood from the "Glory" mother tree in Mr. Goodwin's orchard and uses it to propagate additional "Glory" trees.

44. Cherry trees are propagated by grafting material called "budwood" from an existing tree onto "rootstock" of another variety of cherry tree.

45. Grafting plant material from a cherry tree onto rootstock of another

cherry tree is a form of clonal reproduction that does not produce a genetically distinct tree.

46. The grafted tree, even though it was grafted onto the rootstock of another type of cherry tree, will have the same DNA as the original tree from which the budwood was taken.

47. Van Well suggested to Mr. Goodwin that he should patent the "Glory" tree.

48. Van Well assisted in preparing the "Glory" patent application.

49. On December 1, 2010, Mr. Goodwin submitted the "Glory" patent application to the United States Patent and Trademark Office.

50. Mr. Goodwin named the tree "Glory."

51. On May 1, 2012, the United States Patent and Trademark Office issued a Patent for "Glory," numbered US PP 22,693.

52. The "Glory" Patent states that "Glory" is "believed to be a whole tree mutation of Sumleta."

53. "Sumleta" is another name for the AAFC cherry variety Sonata.

54. "Sport" is another name for a mutation.

55. A sport has unique traits (or phenotype) that are distinct and stable from the original tree.

56. In other words, a sport arises when there is a mutation in the DNA that causes a different trait.

57. Dr. Paul Wiersma is an expert in sweet cherry DNA and genomics who has worked for AAFC for 32 years.

58. Over the course of his entire career, Dr. Wiersma has never seen a sweet cherry sport.

59. Dr. Frank Kappel, a sweet cherry breeder and the former head of AAFC's cherry breeding program, testified that he was not aware of any commercially successful sweet cherry variety that was confirmed to be the result of

a spontaneous mutation.

60. Nick Ibuki, SVC's Business Development Manager, testified that he is not aware of any commercially successful cherry variety that has ever been confirmed to be a sport.

61. Mr. Ibuki testified that he is not aware of any cherry sports starting from a so-called whole-tree mutation.

62. Mr. Ibuki testified that "whole-tree mutation" is a name that has been generally (and improperly) given to cherry trees that people cannot identify.

63. In the apple world, Mr. Ibuki distinguished a whole-tree mutation from a limb mutation where there may be apples on one particular limb of a tree that can be distinguished from the rest of the tree, and additional apple trees are then cultivated based on that one limb.

64. Defendants have offered no scientific evidence, from experts or otherwise, that "Glory" is a sport (or mutation) of either Staccato® or Sonata.

65. Dr. Wiersma found significant differences in the markers between "Glory" and Sonata, such that he concluded it was not possible that "Glory" was a whole-tree mutation of Sonata.

66. Dr. Amit Dhingra, Defendants' DNA expert, never analyzed Sonata's DNA.

67. Mr. Lynn Long is an expert in the horticulture of sweet cherries, and has been working with sweet cherries for about 30 years.

68. Mr. Long, AAFC's horticulture expert, testified that "Glory" is not a whole-tree mutation of Sumleta (Sonata) because there are numerous phenotypical differences between "Glory" and Sumleta (Sonata).

69. No expert for Defendants has opined that "Glory" is a whole-tree mutation of Sonata.

70. "Glory" is not a whole-tree mutation of Sonata.

71. SVC first received "Glory" plant material in the summer of 2012.

72. Beginning in 2012, SVC worked with Dr. Wiersma to compare "Glory" and Staccato® DNA samples.

73. Dr. Wiersma ran DNA studies comparing "Glory" and Staccato® using both wet lab and DNA sequencing methods.

74. He used Simple Sequence Repeats ("SSR"), RNA-seq SNP (single nucleotide polymorphisms) analyses, and RAD-seq methods to compare "Glory" and Staccato® DNA.

75. Dr. Wiersma opined that "Glory" is Staccato®.

76. As explained in more detail below, Dr. Wiersma's opinion is supported by four studies using three different methodologies.

77. Simple Sequence Repeats ("SSR") is a wet lab DNA fingerprinting method used to compare DNA.

78. In wet lab methods, DNA is separated according to size by putting the DNA fragments on a gel, running the DNA fragments down the gel, where the larger fragments are impeded from going through the gel so that the fragments separate by size, staining them, and looking at the sizes of the DNA on the gel.

79. Dr. Wiersma conducted a SSR study in 2012 to compare "Glory" and Staccato® at five DNA marker locations.

80. The five markers included a marker that could distinguish Sweetheart from Staccato®; that same marker existed in "Glory."

81. In contrast to Dr. Wiersma's SSR testing, Dr. Dhingra, Defendants' DNA expert, could not distinguish Staccato® from Sweetheart based on his DNA testing.

82. On October 3, 2012, Dr. Wiersma reported his findings using the SSR method to John Kingsmill of SVC.

83. In his 2012 SSR report, Dr. Wiersma concluded "[t]here are no differences between 'Glory' and 'Staccato' in the analysis using these five marker sets."

84. Dr. Wiersma determined that every DNA marker he analyzed was "identical between Staccato and Glory," including EPPCU0961, the marker that distinguishes Staccato® from Sweetheart.

85. Dr. Wiersma conducted SNP (single nucleotide polymorphism) analyses in 2013 using a RNA-seq method to compare "Glory" and Staccato® DNA.

86. A SNP is a difference in the DNA sequence at one location, for example an A/T (adenine/thymine) base pair instead of a G/C (guanine/cytosine) base pair.

87. In his first SNP analysis comparing "Glory" and Staccato®, Dr. Wiersma determined that there was a .1% probability that "Glory" is different than Staccato®, meaning a 99.9% probability that "Glory" and Staccato® are the same.

88. On February 28, 2013, Dr. Wiersma reported his findings using the SNP analysis method to John Kingsmill of SVC, concluding "we are able to decrease the probability that 'Glory' is unique and a different cultivar to less than 0.1%."

89. Dr. Wiersma conducted a second SNP analysis in 2013 using additional markers spread throughout the genome to compare "Glory" and Staccato®.

90. In his second SNP analysis, Dr. Wiersma determined that there was a .00000763 probability, or a one in 131,000 chance, that "Glory" and Staccato® are not the same.

91. Based on his second SNP analysis, Dr. Wiersma concluded there was a 99.999% chance "Glory" and Staccato® are the same.

92. In August 2013, Dr. Wiersma informed SVC of the conclusion of his DNA analysis of "Glory" and Staccato®.

93. On September 25, 2013, Dr. Wiersma reported the full findings of his second SNP analysis method to Mr. Ibuki, including the probability of ".00000763 or one chance in about 131,000" of "Glory" having the same pattern at the marker locations as Staccato®, making it "extremely likely" that "Glory" is Staccato®.

94. In 2014, Dr. Wiersma used a next generation sequencing method called RAD-seq to compare "Glory" and Staccato®.

95. RAD-seq is a more advanced method of DNA fingerprinting.

96. DNA sequencing is used to distinguish between cherry varieties by looking for SNPs.

97. A SNP is detected by aligning a DNA sequence to a reference genome— a representation of the entire genome—and comparing DNA samples.

98. Using the RAD-seq method, Dr. Wiersma was able to look at roughly four thousand locations spread throughout the sweet cherry genome.

99. Dr. Wiersma aligned and compared SNPs between "Glory" and Staccato® at 4,278 locations.

100. Dr. Wiersma initially determined that 4,270 SNPs out of 4,278 were identical between "Glory" and Staccato®.

101. Dr. Wiersma then looked in more detail at the 8 possible SNP locations where "Glory" and Staccato® may be different.

102. When Dr. Wiersma conducted a deeper dive into those 8 SNP locations, he was able to determine that some were due to alignment errors and the others actually had the same genotype between "Glory" and Staccato®, meaning they were, in fact, the same at those locations.

103. Based on his 2014 RAD-seq study, Dr. Wiersma determined that there was a 99.99 % probability that "Glory" and Staccato® are the same.

104. On May 28, 2014, Dr. Wiersma reported his findings using the RADseq method to Keith Carlson of SVC concluding, "there is an extremely low probability of these t[w]o cultivars ["Glory" and Staccato®] having arisen independently by sexual hybridization."

105. On June 25, 2014, Dr. Dhingra told Van Well that he had met with Dr. Wiersma and discussed Dr. Wiersma's conclusion that "Glory" and Staccato® are the same, that Dr. Wiersma's DNA testing of "Glory" and Staccato® was more comprehensive than his own, and that he did not have access to a sufficient amount of resources and information to reach as comprehensive a result as Dr. Wiersma.

106. Van Well engaged Dr. Dhingra to perform genetic testing on "Glory" and Staccato® on three separate occasions.

107. Dr. Dhingra admitted "Glory" and Staccato® have high genetic similarity.

108. Dr. Dhingra used a SNP Array to compare "Glory" and Staccato®.

109. The SNP Array was developed by a consortium of industry professionals and researchers headed by Amy Iezzoni of Michigan State University and Cameron Peace of Washington State University.

110. Dr. Wiersma testified he was "very confident" in the SNP Array method.

111. Dr. Dhingra's SNP Array study conducted with a respected third-party lab comparing "Glory" and Staccato® did not detect any differences whatsoever between "Glory" and Staccato®.

112. Dr. Dhingra's first round of DNA testing of "Glory" and Staccato® used the TRAP method.

113. On July 30, 2008, Van Well sent leaves of Sweetheart, "Glory," and Staccato® to Dr. Dhingra for genetic testing.

114. According to Van Well, sample No. 1 was Staccato®, No. 2 was Sweetheart and No. 3 was "Glory" ("a new selection of Sonata cherry").

115. At trial, Dr. Dhingra testified he only conducted one blind study and that study did not compare Staccato®, Sweetheart, and "Glory."

116. The TRAP genetic testing was performed blindly, without Dr. Dhingra knowing which sample came from which variety.

117. At trial, Dr. Dhingra testified t, based on a phone call, he understood that his blind TRAP-based method was a comparison of "Glory," Staccato®, and Bing.

118. At trial, Dr. Dhingra testified he understood sample No. 1 was Bing (not Staccato®), No. 2 was "Glory" (not Sweetheart) and No. 3 was Staccato®

(not "Glory").

119. On February 27, 2009, Dr. Dhingra provided Van Well with the results of his blind genetic study.

120. On March 10, 2009, Dr. Dhingra actually learned in an email from Van Well that sample No. 1 was Staccato®, No. 2 was Sweetheart and No. 3 was a "new selection of Sonata."

121. The results of Dr. Dhingra's first TRAP analysis indicated Staccato® was actually more similar to "Glory" than it was to its own parent, Sweetheart.

122. Dr. Dhingra used his 2009 TRAP gel analysis to support his opinion that "Glory" and Staccato® have distinct genotypes.

123. According to Dr. Dhingra at trial, this TRAP analysis supports that Bing and Staccato® cherries are more similar to one another and "Glory" stands out.

124. But, Dr. Dhingra admitted that Bing and Staccato® actually "are not similar" and that Bing is most unlike the others.

125. Dr. Dhingra also admitted that in this TRAP gel the results were not identical even for the same sample when one would expect them to be.

126. In the gel image where Dr. Dhingra said he saw a difference between "Glory" and Staccato®, he admitted there was a faint Staccato® band in the location where there were two dark "Glory" bands.

127. Using the same TRAP method he used in 2009 to compare "Glory" and Staccato®, Dr. Dhingra compared Staccato® and Sweetheart in 2011 and said he could not distinguish them because they are very closely related.

128. Dr. Dhingra admitted he does not use TRAP gels anymore, has not used one since 2015, and has moved entirely to sequencing.

129. Dr. Dhingra told Van Well that, as of June 2014, his DNA studies comparing "Glory" and Staccato® were not as comprehensive as AAFC's studies because he had not yet used a sequencing based approach.

130. Given the inconsistencies in Dr. Dhingra's TRAP study, including whether it included Bing or Sweetheart, the Court gives this study no weight.

131. Dr. Dhingra also employed the TRAP-seq method to compare "Glory" and Staccato®.

132. Using his TRAP-seq method, Dr. Dhingra testified he was targeting flowering genes because he heard that "Glory" was late maturing.

133. Dr. Dhingra admitted he did not actually find any of the flowering genes he was targeting.

134. Nevertheless, Dr. Dhingra testified he identified 942 polymorphisms (or differences) out of about 24,984 loci between "Glory" and Staccato®.

135. Dr. Dhingra never validated whether the polymorphisms he identified were real differences between "Glory" and Staccato®.

136. Most of the alleged 942 polymorphisms Dr. Dhingra reported were actually outside of coding regions, and only 274 alleged differences were in a coding region.

137. Dr. Dhingra published the sequencing data associated with the 274 alleged differences in coding regions.

138. Dr. Wiersma examined the sequence data associated with the alleged polymorphisms identified by Dr. Dhingra between "Glory" and Staccato®.

139. Specifically, Dr. Wiersma evaluated the 274 alleged differences between "Glory" and Staccato® that were identified in actual coding regions.

140. According to Dr. Wiersma, none of the alleged differences identified by Dr. Dhingra between "Glory" and Staccato® could be confirmed to be polymorphisms; Dr. Wiersma instead observed that the alleged differences were due to Dr. Dhingra's alignment errors.

141. Dr. Wiersma observed that Dr. Dhingra has made other alignment errors in his sequencing studies.

142. Dr. Dhingra's TRAP-seq study does not support an opinion that

"Glory" and Staccato® are different.

143. In 2015, Dr. Dhingra conducted a whole genome sequence ("WGS") comparison of "Glory" and Staccato® using Illumina.

144. Dr. Dhingra compared one sequence of "Glory," with one sequence of Staccato®, and saw 2,071 differences out of 1,239,693 loci.

145. Sequencing errors are known to occur during sequencing of DNA samples.

146. Dr. Dhingra did not discuss sequencing error in his DNA sequence results.

147. Dr. Dhingra admitted he does not know how much sequencing error was in his data.

148. Dr. Matthew Settles, AAFC's bioinformatics and computational biology expert, testified that in order to conclude that observed differences between two DNA sequences are real, you must consider sequencing error.

149. Dr. Dhingra used the Stacks program to analyze his WGS data.

150. Dr. Wiersma testified Stacks should not be used for, and is not legitimate for, WGS sequencing.

151. Dr. Wiersma also testified Dr. Dhingra's low coverage of the genome suggests that Stacks was not working appropriately in his WGS data.

152. Based on his WGS study, the only thing Dr. Dhingra concluded and told Van Well was that "Glory" and Staccato® are not 100% identical.

153. Dr. Dhingra admitted that even two trees of the same variety will not be 100% identical and testified that he has never even described two trees as 100% identical.

154. Dr. Dhingra did not offer an opinion based on any of his studies that "Glory" is actually a sport of Staccato®.

155. As he conceded at trial, Dr. Dhingra could not offer an opinion that "Glory" is a sport of Staccato® because he does not have enough information to

render such an opinion.

156. Dr. Dhingra has not done his own genetic studies comparing "Glory" and Staccato® in almost ten years.

157. Dr. Matthew Whiting, Defendants' horticulture expert, testified that, based on the evidence he reviewed, the horticulture data collected was insufficient to draw or support the opinion that "Glory" is a sport of Staccato®.

158. Dr. Settles is an expert in bioinformatics and computational biology in relation to genomics and DNA sequencing.

159. Dr. Settles conducted two experiments to compare "Glory" and Staccato®: (1) he re-analyzed the WGS data published by Dr. Dhingra, and (2) he generated brand new data using PacBio to compare "Glory" and Staccato®.

160. Dr. Settles testified he found three problems with Dr. Dhingra's WGS study: (1) Dr. Dhingra's paper was not originally designed to identify differences between cherry varieties, (2) Dr. Dhingra's analysis did not account for biological variation; and (3) Dr. Dhingra's study failed to address errors known to occur within DNA sequencing.

161. Dr. Settles obtained WGS sequence data from Canada, which allowed Dr. Settles to evaluate technical errors and natural variation between trees of the same variety.

162. Dr. Settles compared the Staccato® DNA data from Canada to itself by splitting the Staccato® DNA data in half.

163. When Dr. Settles analyzed the DNA from the Canada Staccato® data split in half, the data showed between 2,500–3,500 differences that could not be real differences but could only be due to technical errors.

164. Dr. Settles then compared Staccato® DNA sequence from Canada with Dr. Dhingra's Staccato® DNA sequence from Washington.

165. When Dr. Settles compared the Staccato® DNA sequences from Canada and Dr. Dhingra, the data showed 4,317 differences that would be due to

sequencing errors and also natural variation between trees (because, as noted above, even two trees of the same variety are never 100% identical).

166. Dr. Settles then compared Staccato® DNA with varieties that are known to be different than Staccato® but closely related: Sovereign and Sweetheart.

167. When Dr. Settles compared the DNA from different varieties, the data showed significant differences as would be expected between closely related but different varieties (between 55,000 and 65,000 differences).

168. Dr. Settles then compared Staccato® DNA from Washington with "Glory" DNA from Washington.

169. When Dr. Settles analyzed the DNA, the data showed 3,329 differences.

170. The number of purported differences (3,329) between Staccato® and "Glory" DNA was similar to, and actually less than, the number of differences (4,317) he saw when comparing Staccato® DNA from Canada to Staccato® DNA from Washington.

171. Dr. Settles testified his analysis of Dr. Dhingra's data thus showed that it would be improper to conclude from Dr. Dhingra's WGS data that "Glory" is not Staccato® or that "Glory" and Staccato® are distinct genotypes.

172. Dr. Settles used more recent, significantly advanced DNA sequencing technology, called PacBio, in a second blind experiment comparing Staccato® DNA with DNA from both "Glory" and Sweetheart DNA.

173. Dr. Settles performed a SNP analysis to identify any differences (or SNPs) between the DNA sequences.

174. In his SNP analysis, Dr. Settles was able to distinguish Staccato® and "Glory" from Sweetheart but could not distinguish Staccato® from "Glory."

175. Dr. Settles' data showed 2,034 differences between "Glory" and Staccato®.

176. After further analysis, Dr. Settles determined these were not meaningful differences or representative of differences in cherry varieties, but instead represent error or natural genetic variation in individual trees.

177. Dr. Settles also performed an analysis of structural variants to compare "Glory" and Staccato® DNA.

178. Structural variants are large DNA changes such as inversions, duplication events, or translocations.

179. In his structural variant analysis, Dr. Settles was able to distinguish Staccato® and "Glory" from Sweetheart but could not distinguish Staccato® from "Glory."

180. Dr. Settles' data showed only 229 differences between "Glory" and Staccato®.

181. After further analysis, Dr. Settles determined these were not meaningful differences or representative of differences in cherry varieties, but instead represent what one would expect to see in any two trees of the same variety.

182. Dr. Settles' expert opinion is that "Glory" is Staccato®.

183. Mr. Long performed four experiments to determine whether or not "Glory" and Staccato® are the same variety of sweet cherry.

184. Mr. Long's first experiment was a standard fruit quality experiment, which compared fruit size, fruit weight, fruit firmness, sugar content, fruit skin color, stem pull force, and ripening time between "Glory" and Staccato®.

185. Mr. Long's second experiment was a supplemental fruit quality experiment, which compared pits and dimples, slough skin, and hot water peel between "Glory" and Staccato®.

186. Mr. Long's third experiment was a bloom time experiment, which compared bloom timing between "Glory" and Staccato®.

187. Mr. Long's fourth experiment was a frost damage experiment, which

compared frost damage between "Glory" and Staccato®.

188. Mr. Long's second, third, and fourth experiments compared sweet cherry traits that Defendants asserted were different between Staccato® and "Glory."

189. Mr. Long provided Dr. Clive Kaiser with the raw data from his experiments.

190. Dr. Kaiser, who has experience with statistics, ran statistical analyses on the data that provided confidence levels for Mr. Long's results.

191. Dr. Kaiser's statistical analyses evaluated whether there were statistically significant differences between traits.

192. A t-test looks for statistically significant differences in the means or averages of two populations.

193. A statistically significant difference is represented by a p-value below 0.05.

194. The p-value means that even when two varieties are the same, in a given trait you would still expect to see a difference between them 5% of the time.

195. Dr. Whiting, Defendants' horticulture expert, did not disagree with any of Dr. Kaiser's methods of statistical analysis.

196. Mr. Long's first experiment involved five trials.

197. Mr. Long sampled 200 cherries from each block of cherry trees and used anywhere from 25 to 100 cherries in his experiment for each trait.

198. In the first trial, Mr. Long sampled from three adjacent commercial blocks of "Glory" at Defendant Monson Fruit Company's ("Monson") orchard in Cove, Oregon.

199. The first trial comparing "Glory" with "Glory" showed no statistically significant differences in fruit size, fruit weight, fruit firmness, or fruit color, but showed statistically significant differences in sugar content and stem pull force.

200. This control trial comparing "Glory" with "Glory" showed there were

statistically significant differences in traits such as sugar content and stem pull force even for two cherries known to be the same variety.

201. Mr. Long testified that crop load could have affected stem pull force in trial one.

202. Mr. Long testified the pruning techniques on the blocks in trial one could have affected sugar content because Monson did not use scientific methods to prune.

203. In the second trial, Mr. Long sampled cherries from two adjacent commercial blocks of "Glory" and Staccato® at Stemilt Block H6CH CC3 on Stemilt Hill outside of Wenatchee, Washington.

204. The second trial showed no statistically significant differences in fruit size, fruit weight, fruit firmness, or sugar content, but showed statistically significant differences in fruit skin color and stem pull force.

205. Defendants did not identify stem pull force as a difference between "Glory" and Staccato®.

206. Mr. Long testified the statistical differences he saw in fruit skin color and stem pull force does not mean that "Glory" and Staccato® are two different varieties.

207. Mr. Long explained that because the "Glory" trees were on their fourth leaf while the Staccato® trees were on their third leaf, the "Glory" trees canopies were denser and that the difference in canopy density could have affected fruit skin color.

208. In the third trial, Mr. Long sampled from two commercial blocks of "Glory" and Staccato® at Van Well's blocks that were a mile and a half apart.

209. The third trial showed no statistically significant differences between "Glory" and Staccato® in fruit size, fruit weight, fruit firmness, fruit skin color, sugar content, or stem pull force.

210. In the fourth trial, Mr. Long sampled from two commercial blocks of

"Glory" and Staccato® at the Mountain Valley orchard at Stemilt Hill that were separated by an open field approximately 300 yards in length.

211. The fourth trial showed no statistically significant differences between "Glory" and Staccato® in fruit size, fruit weight, fruit firmness, fruit color, or stem pull force, but showed statistically significant differences in sugar content.

212. Defendants did not identify sugar content as a difference between "Glory" and Staccato®.

213. In the fifth trial, Mr. Long sampled from four commercial blocks of "Glory" and four commercial blocks of Staccato®.

214. The fifth trial showed no statistically significant differences in fruit size, fruit weight, fruit firmness, fruit color, or sugar content, but showed statistically significant differences in stem pull force (which, again, Defendants did not identify as a difference between "Glory" and Staccato®).

215. Across all five trials, there were no statistically significant differences in fruit size.

216. Across all five trials, there were no statistically significant differences in fruit weight.

217. Across all five trials, there were no statistically significant differences in fruit firmness.

218. There were no statistically significant differences in fruit skin color in three of the four trials.

219. The only trial that showed a statistical difference in fruit skin color involved cherry trees with canopies of different density due to leaf maturity.

220. There were no statistically significant differences in sugar content in three of the four trials.

221. The first trial only comparing "Glory" cherries with themselves also showed statistical differences in sugar content.

222. The statistical differences in sugar content in those two trials would not

have resulted in fruit quality issues because the content was still above the minimum standards set by the sweet cherry industry.

223. There were no statistical differences in stem pull force in two of the four trials.

224. The first trial only comparing "Glory" cherries with themselves showed the largest statistical difference in stem pull force of all of the trials.

225. The statistical differences in stem pull force in those trials would not have resulted in fruit quality issues because the stem pull force was well above the minimum standards set by the industry.

226. "Glory" and Staccato® had similar ripening (or maturity) times.

227. Mr. Long's first experiment showed no consistent, statistically significant differences in any trait between "Glory" and Staccato®.

228. Mr. Long testified that you would not expect all of those similarities between two different cherry varieties.

229. Based on the results of his first experiment, Mr. Long opined that "Glory" is Staccato®.

230. Mr. Long's second experiment involved one trial.

231. Mr. Long analyzed 25 cherries for pits and dimples and a hot water peel test, and 100 cherries for a sloughed skin test.

232. Those cherries came from two commercial blocks of "Glory" and Staccato® at the Mountain Valley orchard at Stemilt Hill that were separated by an open field approximately 300 yards in length.

233. The experiment showed no statistical differences between "Glory" and Staccato® in pits and dimples, sloughed skin, or hot water peel tests.

234. Based on the results of his second experiment, Mr. Long could not substantiate any of Defendants' claims regarding differences observed between "Glory" and Staccato, further supporting his opinion that "Glory" is Staccato®.

235. Mr. Long conducted a third experiment, the bloom timing experiment,

to determine the validity of Defendants' claim that "Glory" bloomed two to three days later than Staccato®.

236. This experiment involved two trials. In the first trial, Mr. Long sampled from two commercial blocks of "Glory" and Staccato® at the Stemilt H6CH CC3 block at Stemilt Hill that were adjacent. In the second trial, Mr. Long sampled from two commercial blocks of Staccato® and "Glory" at the Stemilt H9UH CC4 and H9UH CC5 blocks at Stemilt Hill respectively that were adjacent.

237. Trials 1 and 2 both showed no statistically significant differences in bloom timing between "Glory" and Staccato®.

238. Based on these bloom timing results, Mr. Long could not substantiate any claim by Defendants that "Glory" bloomed two to three days later than Staccato®, further supporting his opinion that "Glory" is Staccato®.

239. Mr. Long conducted a fourth experiment, the frost damage experiment, to determine the validity of Defendants' claim that "Glory" was more frost-resistant than Staccato®.

240. The fourth experiment involved two trials. The first trial involved cherries sampled from the Stemilt Hill CC3 block. The second trial involved cherries sampled from the Stemilt Hill CC4 and CC5 blocks.

241. There were no statistically significant differences in frost damage between "Glory" and Staccato® in trial 2.

242. In trial 1, there was slightly more damage to the "Glory" trees than the Staccato® trees, which was the opposite of Defendants' contention that "Glory" is more frost-hardy than Staccato®.

243. Based on these frost damage results, Mr. Long could not substantiate any claim by Defendants that "Glory" was more frost resistant than Staccato®, further supporting his opinion that "Glory" is Staccato®.

244. Mr. Long did not observe that Staccato® clustered more than "Glory" when conducting his experiments.

245. Mr. Long did not see a consistent, statistically significant difference in any trait across "Glory" and Staccato® in any of his experiments.

246. Mr. Long testified he would have expected to see a consistent and statistically significant difference in a trait if "Glory" and Staccato® were different varieties.

247. In forming his opinion, Mr. Long also reviewed Dr. Settles' genomic report.

248. Based on the work that he did and his review of Dr. Settles' report, Mr. Long testified, "I'm convinced that Glory is the same cherry as Staccato."

249. Defendants hired Dr. Whiting as an expert in tree horticulture.

250. Dr. Whiting has performed horticultural evaluations of cherry varieties as part of his role as a researcher and professor at Washington State University.

251. Dr. Whiting never performed a comparative study of his own of "Glory" and Staccato® in this case.

252. Dr. Whiting did not collect any fruit samples or take any measurements from them during his visits to the orchards with Mr. Long.

253. Dr. Whiting took notes of what he observed when he accompanied Mr. Long but did not to reference them in his report or rely on them in forming his opinions, and thus did not turn them over in this case.

254. Defendants instructed Dr. Whiting not to perform any comparative studies. Tr. Vol. III, at 552:14–17, 554:14–16.

255. Dr. Whiting testified that plant genetics are extremely important in the plant's traits.

256. Dr. Whiting agreed that trees with the same genome may have phenotypical differences within the same orchard between individual trees and between branches on the tree.

257. Dr. Whiting testified that, based on the evidence he was asked to review, the horticulture data collected was insufficient to draw the conclusion that

"Glory" is a sport of Staccato®.

258. Mr. Ibuki has more than 20 years of experience working with and comparing hundreds of cherry varieties.

259. In 2014, Mr. Ibuki personally observed and compared "Glory" and Staccato® trees in the course of his work for SVC.

260. Mr. Ibuki compared "Glory" and Staccato® trees growing in the same research/experimental orchard in Oregon that were a few meters apart.

261. Mr. Ibuki observed no differences between "Glory" and Staccato® in the following traits:

- Trunk coloration;
- Lenticel color, location, protrusion, and shape;
- Tree growth habits and branching patterns;
- Leaf characteristics, including the buds, petioles, anthocyanins, trichome hairs, leaf shape, glossiness, venation pattern, and visible striations.

262. In 2020, Mr. Ibuki observed and compared Staccato® and "Glory" fruit side by side.

263. In 2020, Mr. Ibuki observed no differences in Staccato® and "Glory" fruit in the following traits:

- Stem length, width, and pull force;
- Shape;
- Dimples;
- Stock cavity depth and width;
- Suture line;
- Stone to flesh ratio;
- Flesh color;
- Density;
- Juice quality; and
- Pit keel.

264. Mr. Ibuki testified that, over the course of his observations of "Glory" and Staccato® trees and fruit, he observed no physical differences between the two cherries across a wide range of approximately 50 physical characteristics that he uses to evaluate cherry trees and fruit.

265. On behalf of Stemilt, Mr. West Mathison, Stemilt's President, testified he believes "Glory" is Staccato®.

266. Although Mr. Kyle Mathison testified about certain differences he observed between his "Glory" and Staccato® trees, he admitted he is not a scientist and therefore does not and cannot know if "Glory" and Staccato® are different.

267. Mr. Kyle Mathison further admitted that to properly make comparisons between different cherries, one would need to compare cherries picked at about the same time, grown on trees of about the same age, planted at the same elevation and in areas with similar weather and rainfall, grown on the same rootstock, and subjected to the same horticultural practices.

268. Mr. Kyle Mathison testified that "Glory" and Staccato® are harvested and packed at the same time.

269. As Mr. West Mathison testified, beginning in 2023, all "Glory" fruit sold by Stemilt is now labeled and sold as Staccato®, including any "Glory" cherries obtained from Mr. Kyle Mathison's trees.

270. Ron Moon ("Mr. Moon") is a Regional Orchard Manager who has worked for Monson since 2006.

271. In March 1997, Mr. Moon entered into a testing agreement with SVC that allowed Mr. Moon to test Staccato®.

272. In October 2002, Mr. Moon entered into a commercialization agreement with SVC-licensee Stemilt that allowed Mr. Moon to sell Staccato®.

273. The commercialization agreement required Mr. Moon to pack all of his cherries through Stemilt.

274. Pursuant to the testing and commercialization agreements, Mr. Moon maintained 1,100 Staccato® trees in his personal orchard from 1999 to 2020.

275. For several years, Mr. Moon complied with the commercialization agreement by sending his Staccato® cherries to Stemilt for packing.

276. In 2006, Mr. Moon began working for Monson and subsequently packed his Staccato® cherries through Monson.

277. In 2020, SVC found out Mr. Moon was in breach of his commercialization agreement and instructed him to remove all of his Staccato® trees.

278. Mr. Moon testified he has observed that "Glory" matures 5 to 7 days later than Staccato®.

279. The Staccato® trees Mr. Moon used in making that observation were the trees that SVC made him remove in 2020.

280. The "Glory" trees Mr. Moon used in making that observation were grown at Monson's Cove Orchard.

281. Monson first obtained "Glory" budwood from Mr. Goodwin in 2015 or 2016.

282. Many environmental factors can impact the maturity timing and other characteristics of cherries.

283. These factors can cause even cherries of the same variety to differ in fruit characteristics and maturity timing.

284. For example, higher elevation delays maturity timing.

285. Tree age also can affect maturity timing.

286. Mr. Moon's Staccato® trees were twenty years old and grown at an elevation of 1,250 feet.

287. Monson's "Glory" trees at Cove Orchard were only three years old and grown at an elevation of 3400 to 3800 feet.

288. The type of rootstock onto which budwood is grafted can also affect

maturity timing.

289. All of Mr. Moon's Staccato® trees were on Mazzard rootstock.

290. Not all of Monson's "Glory" trees were on Mazzard rootstock.

291. Because environmental factors could explain the difference in maturity timing Mr. Moon claims to have observed, Mr. Moon's personal observations of "Glory" and Staccato® are afforded little weight.

292. Monson did not conduct any DNA studies to determine whether "Glory" and Staccato® are the same.

293. Monson also never spoke with Dr. Dhingra about the studies Dr. Dhingra conducted comparing "Glory" and Staccato®.

294. Monson never compared "Glory" and Staccato® fruit.

295. "Glory" is Staccato®

296. The so-called "Glory" mother tree that Mr. Goodwin received from VanWell in May 2000 was a Staccato® tree.

IT IS SO ORDERED. The District Court Clerk is hereby directed to enter this Order and to provide copies to counsel.

DATED this 22nd day of August 2024.

Stanley A. Bastian
Chief United States District Judge